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EXAMINER	
LAZARO, DAVID R	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/611,790	KAKIVAYA ET AL.	
	Examiner	Art Unit	
	DAVID LAZARO	2455	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-14 and 16-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-14 and 16-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the RCE filed 03/19/2009.

2. Claims 1, 3, 5, 8, 14, 17 and 19 were amended.

3. Claims 4, 15 and 21-55 are canceled.

4. Claims 1-3, 5-14, 16-20 are pending in this office action.

Response to Arguments

5. Applicant's arguments filed 03/19/09 have been fully considered but they are not persuasive.

6. Applicant argues on page 10 of the remarks - "*As Applicants understand Pabla, Pabla thus describes peer group name servers which a peer registers its services with. If and only if a peer group name server is unavailable, or a peer is unable to contact a server which it is aware of, does a peer resort to multicast. Thus, Applicants understand Pabla to describe a situation where all discovery of peers and peer servers is handled through a name server if the server is present. At no point do Applicants see that Pabla teaches, suggests, or even mentions that "discovery responders continue to respond to multicast transmission regardless of whether the discovery responders are in ad-hoc or server- managed networks of computing devices" as recited for example in independent claim 19 and similarly throughout the other independent claims.*"

a. Examiner's response - The examiner disagrees with applicant's interpretation of Pabla. Applicant's arguments seem to imply that once a peer is aware of a name server, then the peer will no longer **respond** to multicast queries. Pabla does not state that if a name server is present, the multicast discovery mechanism, particularly the ability to respond to a multicast discovery query, is disabled by all peers aware of the name server. This in fact, would be

contrary to the teachings of Pabla, as it would not allow new peers to discover other peers or for peers to make future discoveries without the name server.

b. In Paragraph [53], Pabla states that if a new peer is not preconfigured to be aware of any peer group name server, then the peer defaults to multicast discovery to "*discover peers 200 and or peer groups 204*". In order for the new peer to be able to discover other peers, the other peers must be able to respond to multicast discovery queries. Other peers would include in scope those peers aware of a name server. This is explicitly suggested in paragraph [67] which states, "*the peer 200 may have obtained information on the peer group name server from another peer 200*". As such, the another peer is discovered by the peer even though the peer is not aware of the name server while the another peer is aware of the name server. In order for this to happen, the another peer would have to be able to respond to the default multicast query even though it is aware of the name server.

c. Further, if a name server does respond to the multicast query and the new peer registers with the name server, at that point the new peer "***may use*** *the peer group server 300 for future discoveries*" ([53] emphasis added). In other words, even if a name server is present on the peer's network and a peer is aware of and connected to the name server, a peer does not necessarily have to use the name server for discovery process. Clearly this is in contrast to applicant's assertion that "all discovery of peers and peer servers is handled through a name server if the server is present".

d. Applicant's arguments are not persuasive.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3, 5-14, 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication 2002/0156875 by Pabla (Pabla).

9. With respect to claim 1, Pabla teaches a method of reliably discovering devices and services with ad-hoc and server-based operation in a network environment of devices acting as discovery clients and discovery responders, the discovery responders each providing one or more services, at least some of the services being non-unique to a particular device (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services) the method comprising: detecting by a discovery client whether a discovery server is present (Page 4 [0053] Page 5 [0057] and page 6 [0067] - peer (client) determines if there are any peer group name servers (discovery server) present);

in a detected absence of any discovery server, conducting discovery of services of discovery responders by the discovery client as a multicast operation (Page 4 [0053]

and Page 5 [0057]: if name server not detected, discovery continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services);

in a detected presence of any discovery server, suppressing by the discovery client of its multicast operation and conducting discovery of services of discovery responders by the discovery client directed to the detected discovery server (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services); and

continuing by the discovery responders to respond to multicast discovery of the service of the discovery responders regardless of the presence or absence of the discovery server in the network environment (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers).

10. With respect to claim 2, Pabla teaches all the limitation of claim 1 and further teaches wherein the detecting comprises sending by the discovery client of a discovery query as a multicast operation to find any discovery server in the network environment (Page 4 [0053] and Page 6 [0067]: peers can use multicast to discover name servers).

11. With respect to claim 3, Pabla teaches a method of reliable multicast suppression in service discovery on ad- hoc networks, comprising:

sending a multicast discovery query for discovery servers by a discovery client on a network to find any discovery server present within a scope on the network (Page 4 [0053] and Page 6 [0067]: peers can use multicast to discover name servers);

receiving by the discovery client any response to the multicast discovery query (Page 4 [0053] Page 5 [0057] and page 6 [0067] - peer may receive response from name server);

upon receiving a response of a discovery server to the multicast discovery query, suppressing sending further multicast discovery queries for device services by the discovery client and sending further discovery queries for device services by the discovery client directly to the discovery server, while the discovery server remains present on the network (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery); and

in absence of any response to the multicast discovery query, sending the any further discovery queries for device services by the discovery client as multicast discovery queries on the network (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast);

wherein discovery responders continue to respond to multicast discovery queries for device services matching the respective discovery responders from the discovery client irrespective of the discovery server being present on the network (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers - note also the response to arguments).

12. With respect to claim 5, Pabla teaches a computing device operating as a discovery client in a network architecture for a discovery protocol capable of ad-hoc and server-based operation, the computing device comprising:

a memory storing software programming for an ad-hoc discovery protocol (Page 7 [0073]); and

a processor operating to execute the software programming in the memory; wherein the software programming comprises:

programming code for switching the discovery client between server-based and ad-hoc discovery modes when a discovery server is determined to be present or absent, respectively, in a network in which the computing device is operating (Page 4 [0053] Page 5 [0057] and page 6 [0067] - peer (client) determines if there are any peer group name servers (discovery server) present);

server-based discovery mode programming code for sending discovery queries of the discovery client for device services directly to the discovery server determined to be present in the network (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services); and

ad-hoc discovery mode programming code for sending discovery queries of the discovery client for device services as a multicast transmission to discovery responders in the network (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery

continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services);

wherein the discover? responders are configured to respond to the multicast transmission of the discovery queries of the discovery client for device services regardless of the discovery server being present in the network (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers - note also the response to arguments).

13. With respect to claim 6, Pabla teaches all the limitations of claim 5 and further teaches wherein the software programming further comprises programming code for detecting the presence or absence of a discovery server in the network (Page 4 [0053] Page 5 [0057] and page 6 [0067] - peer (client) determines if there are any peer group name servers (discovery server) present).

14. With respect to claim 7, Pabla teaches all the limitations of claim 6 and further teaches wherein the programming code for detecting comprises programming code for sending a multicast discovery query to find discovery servers present in the network (Page 4 [0053] and Page 6 [0067]: peers can use multicast to discover name servers).

15. With respect to claim 8, Pabla teaches a computer-readable media having computer-readable software programming thereon for executing on a discovery client in a network architecture of a discovery protocol capable of server-based and ad-hoc discovery, the software programming comprising:

programming code for switching the discovery client between server-based and ad-hoc discovery modes when a discovery server is determined to be present or absent, respectively, in a network in which the computing device is operating (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery, else the peer defaults to using multicast);

server-based discovery mode programming code for sending discovery queries of the discovery client for devices services directly to the discovery server determined to be present in the network (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services); and

ad-hoc discovery mode programming code for sending discovery queries of the discovery client for device services as a multicast transmission to discovery responders in the network (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services);

wherein the discovery, responders are configured to respond to the multicast transmission of the discovery queries of the discovery client for device services regardless of the discovery server being present in the network (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers - note also the response to arguments).

16. With respect to claim 9, Pabla teaches all the limitations of claim 8 and further teaches wherein the software programming further comprises programming code for detecting the presence or absence of a discovery server in the network (Page 4 [0053] Page 5 [0057] and page 6 [0067] - peer (client) determines if there are any peer group name servers (discovery server) present).

17. With respect to claim 10, Pabla teaches all the limitations of claim 9 and further teaches wherein the programming code for detecting comprises programming code for sending a multicast discovery query to find discovery servers present in the network (Page 4 [0053] and Page 6 [0067]: peers can use multicast to discover name servers).

18. With respect to claim 11, Pabla teaches a distributed system of networked computing devices compliant with an ad-hoc service discovery protocol, the distributed system comprising:

at least one networked computing device operating as a discovery client according to a network architecture of the ad-hoc service discovery protocol, the discovery client having a server-based discovery mode and an ad-hoc discovery mode, the discovery client operating to determine whether any discovery server is present or absent in a network and switch to the server-based discovery mode or ad-hoc discovery mode, respectively, according to the determination , the discovery client operating in ad-hoc discovery mode to send discovery queries for device services as multicast transmissions and operating in server-based discovery mode to suppress multicast transmission of discovery queries for device services by the discovery client (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and

instead uses the name server for discovery, else the peer defaults to using multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services); and

at least one networked computing device operating as a discovery responder with device services according to the network architecture of the ad-hoc service discovery protocol, the discovery responder operating regardless of presence or absence of a discovery server in the network to respond to multicast transmissions of discovery queries for device services matching the device services of the discovery responder (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services).

19. With respect to claim 12, Pabla teaches all the limitations of claim 11 and further teaches wherein the discovery client has a configured mode, the discovery client operating in the configured mode to suppress multicast transmission of discovery queries by the discovery client and send such discovery queries directly to a specified discovery server specified in its configuration (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery).

20. With respect to claim 13, Pabla teaches all the limitations of claim 11 and further teaches wherein the discovery responder has a configured mode, the discovery responder operating in the configured mode to suppress response to multicast

transmission of discovery queries (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery).

21. With respect to claim 14, Pabla teaches a method of discovering controllable device services in ad-hoc and server- managed networks of computing devices, the method comprising:

when connected in an ad-hoc network, sending discovery queries for device services as a multicast transmission from a discovery client computing device (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments - 10/20/08- in relation to services);

when connected in a server-managed network having a discovery server, sending discovery queries for the device services from the discovery client computing device as a directed transmission to the discovery server (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) using a networking protocol that guarantees message delivery (Page 8 [0083] and [0091] - peer to peer platform may use TCP) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services); and

responding to discovery queries for the discovery services received as multicast transmissions by a computing device that match device services of the computing device regardless of whether connected in the ad-hoc or server-managed network (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able

to respond to peers not aware of name servers) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services).

22. With respect to claim 16, Pabla teaches all the limitations of claim 14 and further teaches wherein the networking protocol is the transmission control protocol (TCP) (Page 8 [0083] and [0091] - peer to peer platform may use TCP).

23. With respect to claim 17, Pabla teaches a computer-readable storage media having a software program thereon executable on a computing device to perform a method of discovering device services in ad-hoc and server-managed networks of computing devices, the method comprising:

when the computing device is connected in an ad-hoc network, sending discovery queries for device services as a multicast transmission from the computing device (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services); and

when the computing device is connected in a server-managed network having a discovery server, sending discovery queries for the device services from the computing device directly to the discovery server (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) using a networking protocol that guarantees message delivery (Page 8 [0083] and [0091] - peer to peer platform may use TCP); and

responding to discovery queries for the device services received as multicast transmissions by a discovery responder that match device services of the computing

device regardless of whether connected in the ad-hoc or server-managed network (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers and note response to arguments).

24. With respect to claim 18, Pabla teaches all the limitations of claim 17 and further teaches wherein the networking protocol is the transmission control protocol (TCP) (Page 8 [0083] and [0091] - peer to peer platform may use TCP).

25. With respect to claim 19, Pabla teaches a computing device for discovering device services of discovery responders in ad-hoc and server-managed networks of computing devices, the computing device comprising:

means for, when connected in an ad-hoc network, sending discovery queries for device services of the discovery responders as a multicast transmission from a discovery client computing device (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments -10/20/08- in relation to services); and

means for, when connected in a server-managed network having a discovery server, sending discovery queries for the device services of the discovery responders from the discovery client computing device as a directed transmission to the discovery server (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) using a networking protocol that guarantees message delivery (Page 8 [0083] and [0091] - peer to peer platform

may use TCP) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments - 10/20/08- in relation to services);

wherein the discovery responders continue to respond to multicast transmission regardless of whether the discovery responders are in ad-hoc or server managed networks of computing devices (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers and note response to arguments)

26. With respect to claim 20, Pabla teaches all the limitations of claim 19 and further teaches wherein the networking protocol is the transmission control protocol (TCP) (Page 8 [0083] and [0091] - peer to peer platform may use TCP).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID LAZARO whose telephone number is (571)272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Lazaro/
Primary Examiner, Art Unit 2455
03/27/09